Groupings for Conservation Management Systems

Grouping Concept

Grouping of resource concerns can assist the resource planner in identifying resource concerns that may be encountered in certain areas of the county. Prior knowledge of these concerns and how to deal with them should better enable the planner in carrying out resource planning activities. These groupings can also be used as an aid in developing guidance documents.

Ideally, each resource will be grouped into the specific concerns for that resource. Currently, only groupings for the soil resource are contained in the FOTG. As additional information is developed for the water, air, plant, and animal resources, these groupings will also be included in the FOTG.

The Soil Grouping Process

Each soil grouping report is a list of soil map components with similar properties and interpretations within a Major Land Resource Area (MLRA). The soil group is evaluated based on planning considerations. Three reports are generated: the soil grouping legend for the county, the soil groupings and the planning considerations.

Soils were grouped by using the following properties and interpretations:

T factor	K factor
Surface Texture	Texture Modifiers
Reaction (pH)	Permeability
Flooding Hazard	Slope
Water Table Depth	Salinity
Wind Erodibility Group	Sodium
Available Water Capacity	

Explanations of these properties and interpretations can be found in Section II of the FOTG.

The planning considerations are based on soil properties that could have possible resource concerns. These concerns are listed in CAPITAL LETTERS in the PLANNING CONSIDERATION column. The following is an explanation of the planning consideration concerns:

Acidity - indicates soil map units that have a component with a pH more acid than neutral. The resources affected are primarily water and plants. Soluble minerals could cause a water quality concern. Plants that are adapted to acidic soils should be considered as well as concern for plants that may show a reduced yield or high seedling mortality rate.

Alkalinity - indicates soil map units that have a component with a pH more alkaline than neutral. The resources affected are primarily water and plants. Soluble minerals could cause a water

quality concern. Plants that are adapted to alkaline soils should be considered as well as concern for plants that may show a reduced yield or high seedling mortality rate.

Droughty - indicates soil map units that have a texture and other features that may restrict water availability. The sandy nature of this group would have a high water intake rate that would rapidly take the water out of the root zone for most crops. Also, the lack of available water could restrict the kind and amount of plant and animal resources.

Fast Intake - indicates soil map units that have a very rapid or rapid movement of water and air through the soil. The concerns associated with this planning consideration are very similar to those addressed in Too Sandy.

Flooding - indicates soil map units that are frequently or occasionally flooded from stream overflow or runoff. The resources affected are primarily surface water and plants. This should alert the planner to possible concerns with surface water quality and quantity.

Rooting Depth - indicates that soil components are usually shallow in depth to a root restrictive layer. This could restrict the kind of plants and the expected yields. Also, water or wind erosion on these areas would be difficult to overcome. Water problems, such as salt accumulations and seeps, are often associated downslope from these areas.

Salinity - indicates soil map units that have a component high in soluble salts. This is closely identified with the plant resource. High concentrations of salts may interfere with the adsorption of water by plant roots. Plants that are adapted to saline soils should be considered as well as concern for plants that may show a reduced yield or high seedling mortality rate.

Slope - indicates soil map units with a slope in excess of 1 percent. Generally, the steeper the slope the more it affects the natural resources. Ephemeral gully erosion is more apt to occur on steeper slopes. Water will have a higher potential velocity translating into a larger sediment load.

Slow Intake - indicates soil map units that have a very slow or slow movement of water and air through the soil. The concerns associated with this planning consideration are very similar to those addressed in Too Clayey.

Sodium - indicates soil map units that have a component high in sodium. Soils with high sodium content may have increased dispersion, slower water and air movement, and poor tilth. This concern is closely identified with the plant resource. High concentration of sodium may interfere with penetration of plant roots. Consideration as well as concern for plants that may show a reduced yield or high seedling mortality rate.

Too Clayey - indicates soil map units that are too clayey for most applications. This could be closely identified with the plant and water resources. Clayey textured soils often have problems associated with poor tilth and very slow infiltration of water, fertilizers, and

pesticides. Besides obvious soil resource problems, surface water resource concerns should be weighed carefully in the inventory process.

Too Sandy - indicates soil map units that are too sandy for most water storage applications. This could be closely identified with the plant and animal resources. Sandy textured soils often have problems associated with rapid infiltration of water, fertilizers, and pesticides. Besides the obvious soil resource erosion problem, the plant and groundwater resource concerns should be weighed carefully in the inventory process.

Water Erosion - indicates soil map units that have a hazard of water erosion. Conservation methods (including plant and water concerns) should be considered. This should also alert the planner to possible concerns with water quality and quantity concerns.

Wetness - indicates soil map units that have excess amounts of water in the soil during time of use. The wet nature of the soil is due to a water table within 2 feet of the surface. This could be closely identified with the plant and water resources. High water table soils often have problems associated with poor plant response and infiltration of fertilizers and pesticides into the water resource. The plant and water resource concerns should be weighed carefully in the inventory process.

Wind Erosion - indicates soil map units that have a hazard of wind erosion. Conservation methods (including the plant resource concern) should be considered for the critical wind erosion period. This should also alert the planner to possible concerns with air quality and safety.

Example

Guidance Document

Landuse: *Rangeland* **Resource Area:** *74* **Soil Grouping:** *74.11* **Slope:** *3 - 12%*

Resource Setting: *Gullies in field, overgrazed range, lack of an adequate water supply, cedar infestation, poor health of range, and offsite sediment deposition.*

RMS Plans	Resource Problem or Concern									
	Soil Erosion Class. Gully	Soil Depos. Damage Off.	Plant Cond. Rangeland	Plant Mgmt. Pests	Anml Habit. Dom.- Food	Anml Habit. Dom. - Water	Anml. Mgmt. Pop./Balance			
Option A										
Grade Stabilization Structure (410)	Significant +	Moderate +	Negligible	Not Applicable	Moderate +	Moderate +	Negligible			
Proper Grazing Use (528)	Slight +	Slight +	Moderate +	Moderate +	Significant +	Significant +	Significant +			
Brush Mgt. (Mechanical) (314m)	Moderate +	Moderate +	Significant +	Significant +	Significant +	Moderate +	Significant +			
Option B										
Livestock Exclusion (472)	Significant +	Moderate +	Not Applicable	Moderate +	Significant +	Significant +	Significant +			
Diversion (Gradient) (362g)	Moderate +	Moderate +	Slight +	Slight -	Slight +	Significant +	Slight +			
Pond (378)	Moderate +	Slight +	Significant +	Negligible	Moderate +	Significant +	Moderate +			
Brush Mgt. (Presc. Burn.) (314pb)	Moderate +	Moderate +	Significant +	Significant +	Significant +	Moderate +	Significant +			
Option C										
Proper Grazing Use (528)	Slight +	Slight +	Moderate +	Moderate +	Significant +	Significant +	Significant +			
Well (642)	Negligible	Negligible	Not Applicable	Slight +	Moderate +	Slight +	Moderate +			
Trough or Tank (614)	Negligible	Negligible	Moderate +	Negligible	Moderate +	Significant +	Moderate +			
Critical Area Planting (342)	Moderate +	Moderate +	Significant +	Not Applicable	Moderate +	Significant +	Moderate +			
Prescribed Burning (338)	Negligible	Slight -	Moderate +	Significant +	Moderate +	Negligible	Moderate +			
Option D										
Planned Grazing System (556)	Moderate +	Slight +	Significant +	Moderate +	Moderate +	Significant +	Significant +			
Pipeline (516)	Not Applicable	Negligible	Moderate +	Not Applicable	Moderate +	Moderate +	Moderate +			
Trough or Tank (614)	Negligible	Negligible	Moderate +	Negligible	Moderate +	Significant +	Moderate +			
Critical Area Planting (342)	Moderate +	Moderate +	Significant +	Not Applicable	Moderate +	Significant +	Moderate +			
Prescribed Burning (338)	Negligible	Slight -	Moderate +	Significant +	Moderate +	Negligible	Moderate +			